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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,016	01/29/2001	Francis J. Maguire JR.	313-008-2	9226

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EXAMINER

LEE, MICHAEL

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 07/02/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/772,016	MAGUIRE, FRANCIS J.
	Examiner M. Lee	Art Unit 2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 January 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-16 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Jarrett (5,252,070).

Regarding claim 1, Jarrett discloses a moveable headrest (col. 3, lines 10-13), a support (the helmet as recited in col. 3, lines 8-9), an inherently included light source (all simulators have display play devices for simulating an environment), and an actuator (col. 3, lines 42-49) for causing the moveable headrest to execute attitudinal movements for emulation by the head of the user acting as a passive viewer as claimed.

3. Claims 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomas (5,320,534).

Regarding claim 10, Thomas shows a step for providing the light from the light source for the formation of images with a changing point of view (40,32,34), and a step of changing the orientation of the light source in correspondence with the changing point of view for guiding the head of the viewer in a correspondingly changing orientation for viewing the images with the eye in the head of the viewer at the changing orientation of the light source and from the changing point of view (col. 4, lines 24-53).

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Regarding claim 11, see col. 5, lines 16-21.

Regarding claims 12 and 13, the projectors (40,32,34) inherently include adjustable focus lenses for adjusting the focal length of the projectors because the projectors can be placed in an unfocused location. If they are placed in an unfocused location, the focus of the projectors is needed to be adjusted.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-9, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarrett (5,252,070) in view of Thomas (5,320,534).

Regarding claim 2, Jarrett does not specify the images having a portion with high informational content and a portion with low informational content and wherein the portion with high informational content changes position with respect to the portion with the low informational content as claimed. In any event, Jarrett teaches that helmet mounted display equipment is being used in the simulation (col. 4, lines 35-40). Thomas, from the similar field of endeavor, teaches helmet mounted display equipment for a simulator providing an instantaneous field-of-view of about 60% for intermediate resolution image 50 and about 20% for high resolution 50 (col. 5, 16-21). This feature clearly meets the lacking limitation. Thomas teaches that there is a need for an improvement to display systems for flight simulators, that adds the high resolution

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needed for simulating the most visually demanding tasks while retaining the compactness, wide field-of-view, high brightness, excellent contrast, low cost, and high resolution at the continuously changing area-of-interest, or foveal, view of the display system (col. 1, lines 66 to col. 2, line 10). Hence, in order to improve the helmet display of Jarrett, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the display system of Thomas into Jarrett to perform the well-known functions as claimed.

Regarding claims 3 and 4, Thomas does not specify the variable magnification device as claimed. In any event, Thomas does show three projectors (40, 32, 34) for projecting images for the viewer. All these projectors inherently include some optical lenses for adjusting the focal lengths of the projected images since the viewer and the projectors can be located at unfocused positions. In order to focus the projected images without move the projectors or the viewer's position, the focus lens of the projectors are needed to be adjusted. It is well known in that art that mechanized automatic focal length adjusting means has been employed to control the optical lenses of both a projection device and an image capture device. Such means has greatly enhanced the operability of the aforementioned devices because the user can remotely adjust the lenses from a distance. It was time consuming otherwise. Hence, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include an automatic lens focal length adjusting means into Thomas so that the adjusting function can be remotely controlled.

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Regarding claims 5-8, in addition of above, Thomas further shows the image display system is made of a stereoscopic system (col. 5, lines 25-64).

Regarding claim 9, the stereoscopic images in Thomas clearly meet the portion with high informational content changes position for foveal viewing by the two eyes by following said position changes at correspondingly changing points of fixation with correspondingly changing convergence by said two eyes as claimed since any pair of stereoscopic images have a convergence point where the images appear identical.

Regarding claim 14, Jarrett discloses a head guide connect to an inherently included light source for changing the orientation of the light source and for guiding the head of the viewer in a correspondingly changing orientation (col. 1, lines 54-65). However, Jarrett does not further specify the light source for providing the light for formation of images with a changing point of view at correspondingly changing orientations of the light source. In any event, Jarrett teaches that helmet mounted display equipment is being used in the simulation (col. 4, lines 35-40). Thomas, from the similar field of endeavor, teaches that helmet mounted display equipment in which the point of view of the image displayed from the projector 40 changes according to the orientation of the viewer head position (col. 3, lines 34-41). Thomas further teaches that there is a need for an improvement to display systems for flight simulators, that adds the high resolution needed for simulating the most visually demanding tasks while retaining the compactness, wide field-of-view, high brightness, excellent contrast, low cost, and high resolution at the continuously changing area-of-interest, or foveal, view of the display system (col. 1; lines 66 to col. 2, line 10). Hence, in order to improve the helmet

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display of Jarrett, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to include display system of Thomas into Jarrett to perform the well-known functions as claimed.

Regarding claim 15, the display system in Jarrett is moved in a robot configuration (see Figures 1 and 2). The control arm (10,7) resembles to a robot control arm.

Regarding claim 16, the control arm in Jarrett can be moved in Cartesian, cylindrical, spherical, or articulated robot configurations. It would have been a matter of design choice since it is well known that one coordinate system can be transformed to another without affecting the operation of a system.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 15, "the mover" lacks proper antecedent basis.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Lee whose telephone number is 703-305-4743.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at 703-305-4795.

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Any response to this action should be mailed to:

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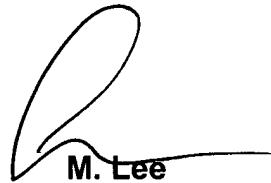
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



M. Lee
Primary Examiner
Art Unit 2614

June 18, 2003